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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/640,364	08/13/2003	William J. Colucci	EP-7600	8444

7590 01/17/2006

Mr. Dennis H. Rainear
Law Department
Ethyl Petroleum Additives Inc.
330 South Fourth Street
Richmond, VA 23219

EXAMINER

DRODGE, JOSEPH W

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 01/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/640,364	Applicant(s) COLUCCI, WILLIAM J.	
	Examiner Joseph W. Drodge	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7-9 and 11-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7-9 and 11-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1,2,4,5,7-9 and 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rohrbach et al patent 6,379,564 in view of Drozd et al patent 6,835,218 and Graiff et al patent 5,300,218.

For claims 1 and 17-19, Rohrbach et al disclose a filter device for filtering fuel or other viscous hydrocarbon fluids, comprising an adsorbent reagent that may be a high surface area sorbent, having a releasably attached fuel additive (see especially column 6, lines 20-28, column 7, lines 40-49, column 13, lines 41-50 and column 14, lines 22-31). The device of Rohrbach et al also causes reactions, i.e. "chemical interactions" with the fuel being treated (column 6, lines 24-26, column 14, lines 27-31). With regard to claim 17, the casing of the fuel filter defines a chamber. For claim 18, the inlet to the fuel filter continually provides fuel from a supply line upstream of the filter and for claim 19, also see column 3, lines 48-51 concerning slow controlled release of additive.

The claims all differ in explicitly requiring the adsorbent that releases the additive to be disclosed as an ion exchange resin. Rohrbach et al suggest materials functionally similar to "ion exchange resin" by disclosure of "high surface area and surface modified sorbents" that may have "high binding activities" and may be of resin forming polymeric material "organic salts... amines, polyamines, polyimines..." and neutralizing agents including zeolites and modified zeolites and activated carbon (column 7, lines 45-49 and 61-67). Drodz et al further suggest "ion exchange resin" by teaching of mixture of adsorbents and thermoplastic resins" (column 13, lines 6-10). Graiff teaches purification of fuels prior to their use/combustion in engines, by passing the fuel through a bed containing adsorbents including one or more of activated carbon, zeolites and ion exchange resins/at least of the anionic exchange type (especially column 2, lines 2-41).

Thus, it would have been obvious to one of ordinary skill in the art to either have considered the additive releasing sorbents of Rohrbach et al to encompass "ion exchange resin" or to supplement or substitute with ion exchange resin, since Drodz et al teach that additives are controllably released, at a well controlled rate (see further column 2, lines 34-46 of Drodz et al) from mixtures of adsorbents and thermoplastic resins (i.e. resins having ion containing fuel impurity adsorbent properties, the impurities being adsorbed being exchanged with the fuel additive; and since Graiff et al teach that each of activated carbon, zeolites and ion exchange resins reduce various types of fouling, gumming and deposits present in the fuel.

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Regarding claims 2 and 14-16, both Rohrbach et al and Drodz references teach treating of gasoline fuel in vehicles (see example column 14, line 25 of Rohrbach et al and column 2, lines 42-46 of Drodz).

Regarding claims 4 and 5, the group of polymeric resins disclosed in column 7, lines 65-67 of Rohrbach and column 14, lines 7-column 15, line 4 of Drodz contain various anionic and cationic monomer groups. Also, Graiff et al suggest both cation and anion exchange materials or acid & base exchange materials (column 2, lines 18 and 36-41).

For claims 7-9, see column 14, lines 22-31 and column 8, lines 22-31 of Rohrbach concerning the reagent being chemically active or mixed with a chemically active substance, especially for neutralizing acid contaminants/impurities/fuel by-products, with the sorbing of contaminants considered a "physical reaction/ instant claim 10.

For claims 11 and 12, see the list of additives at column 7, lines 50-56 [including manganese compounds] and column 13, lines 41-50 of Rohrbach and if necessary, in column 4 of Drodz, as well.

For claim 13, Drodz further teaches use of a membrane to further control rate of release of the additive (column 21, lines 44-51).

For claims 14-16, the Rohrbach et al apparatus is intended for use with internal combustion engine vehicles/automotives (column 14, lines 24-27).

Applicant's arguments filed on December 12, 2005 have been fully considered but they are not persuasive. It is argued that Rohrbach does not teach chemical

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interaction between filter elements and additives to promote binding and displacement of additive in the fuel. It is submitted that the instant claims only recite that a chemical interaction occurs and are silent as to presence of or interaction with filter elements or the chemical interaction involving additive binding and displacement. At any rate, such chemical interactions would not involve any structural or device components for the instant apparatus claims.

It is also argued that Rohrbach does not provide for binding of an additive to an ion exchange resin. It is again submitted that the claims do not recite such binding.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

January 10, 2006


JOSEPH DRODGE
PRIMARY EXAMINER